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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

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7 May 1974

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): The Employment of Tactical
Rockets Against Naval Targets

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal 'Military Thought'. This article by the Commander of Rocket Troops and Artillery of the Soviet Ground Forces examines possibilities for using tactical rockets against naval targets. Four rockets with ranges of 65 to 500 kilometers and yields of 10 to 500 kilotons are associated with the Ground Forces. The appropriate naval targets are identified as enemy nuclear attack capabilities, especially carrier strike groups, and amphibious landing forces. This article appeared in Issue No. 2 (84) for 1968.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

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David H. Blee
Acting Deputy Director for Operations

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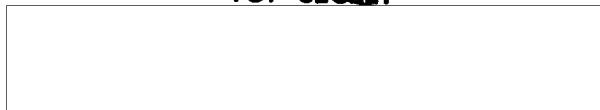
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Intelligence Information Special Report

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COUNTRY USSR

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SUBJECT

MILITARY THOUGHT (USSR): The Rocket Troops of the Ground Forces
in Combat with Naval Targets

SOURCE Documentary

Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 2 (84) for 1968 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal 'Military Thought'. The author of this article is Marshal of Artillery K. Kazakov. This article by the Commander of Rocket Troops and Artillery of the Soviet Ground Forces examines possibilities for using tactical rockets against naval targets. Four rockets with ranges of 65 to 500 kilometers and yields of 10 to 500 kilotons are associated with the Ground Forces. The appropriate naval targets are identified as enemy nuclear attack capabilities, especially carrier strike groups, and amphibious landing forces.

End of SummaryComment:

Marshal Kazakov was replaced as Commander of Rocket Troops and Artillery and became an Inspector-General of the USSR Ministry of Defense in 1969. He has contributed many articles to military periodicals, the most recent being "Fiery Shield of the Motherland", Gudok, 19 November 1971. He also wrote Always with the Infantry, Always with the Tank, (Soviet Military Review, No. 6, 1973). The SECRET version of Military Thought was published three times annually and was distributed down to the level of division commander. It reportedly ceased publication at the end of 1970.

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The Rocket Troops of the Ground Forces in Combat with
Naval Targets

by

Marshal of Artillery K. Kazakov

In conducting military operations in the main continental theaters, our probable enemy, as is known, assigns a major role to his naval forces. This is explained by the fact that the enemy navy is capable of mounting nuclear strikes against targets deep in the continent as well as against our ground forces groupings operating on a maritime axis; and that he can transport large troop contingents by sea in order to reinforce his grouping in a theater of military operations. This in turn exerts a decisive influence on the course and outcome of operations. Along with the transfer of troops, equipment, and materiel to reinforce groupings created in Europe and the Far East during peacetime, the American command may, during military operations, resort to large amphibious landings, within the NATO framework or independently. Amphibious landing operations will have various goals, including the capture of forward naval bases, shore installations, or coastal (island) areas, and the support of troop offensives on maritime axes.

Under these conditions, the success achieved by fronts in offensive operations will depend to a great extent on the developing situation, not only on land but also at sea. Therefore, a front cannot avoid carrying out certain tasks in the battle with various enemy forces which could hinder the fulfilment of operational tasks, the more so since front capabilities for combat with naval targets have grown considerably.

If, in the past, combat with the enemy at sea was almost entirely the responsibility of the navy and aviation, with the role of ground forces limited essentially to preventing landings or destroying them in their landing areas, the situation today has undergone a fundamental change. The fact that our ground forces have modern rocket systems, including the latest models with long ranges and powerful charges, makes it possible for fronts to maintain direct fire coordination with fleets during operations and to provide considerable assistance in defeating the enemy at sea.

There has also been an increase in the capabilities of front aviation to strike an enemy at sea. Its strikes will be especially effective

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against important individual objectives on the open sea, for example against submarines, missile-carrying ships, and other targets which are highly mobile and small. Aviation plays a particularly large role in carrying out reconnaissance and final reconnaissance missions against naval targets.

At the same time, it may be appreciably more difficult to carry out air strikes against large groupings of naval forces and their carrier large units because of strong enemy air defense.

To hit such groupings, it is obviously more advisable to carry out strikes by rocket troops along with strikes by naval forces. This is the question to which this article devotes its main attention.

The rocket systems of the ground forces have quite considerable capabilities for striking naval targets (see table).

Type of missile	Depth of strike, in kilometers						Time of strike preparation, in minutes from readiness			Yield of nuclear charge, in kilotons
	50	150	250	300	450	800	No.1	No.2	No.3	
R-65							3	10	12-15	10
R-170	—						4	25	35	100
R-300		—					4	14/20	25	100
KR-500			—				10	46	53	500

Note. The indicated strike preparation time is the average for a battery. The time from readiness No. 2a is given as the numerator for the R-300.

As may be seen, ground forces rocket troops are capable of striking enemy naval objectives and targets at sea while they are still a long distance away, and in many cases even before they embark. And as more advanced rockets become part of the armament of the ground forces, their rocket troops will be able to mount effective nuclear strikes against enemy naval groupings in virtually any theater of military operations.

What are the more typical tasks which may be assigned to ground forces rocket troops in combat with the enemy at sea?

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One of the most important tasks is undoubtedly to destroy those means which are capable of using nuclear weapons, means such as large units of nuclear submarines, missile-carrying ships, and aircraft carriers. The fulfilment of this task acquires special importance as combat operations begin with the delivery of the initial nuclear strike designed to weaken enemy nuclear strength and to reduce to the utmost the effectiveness of his retaliatory strikes against our troops.

The second important task will be to destroy amphibious landing forces, as well as troops, military equipment, and materiel being transported by sea to reinforce groupings opposing our ground forces. It will be particularly urgent to fulfil this task during the war, since NATO troop exercises have shown that the transfer of reserves to the European Theater is usually planned between the fifth to the eighth day of the war.

In a number of cases rocket troops can also be called upon to strike enemy gun vessels which are providing fire support for ground force actions.

The use of ground forces rocket troops to strike enemy naval targets is difficult but completely feasible if very close coordination is organized and maintained between front troops and naval forces.

In organizing coordination, it is necessary to determine the time limits and scope of the tasks for front rocket troops to strike naval targets; to agree on questions concerning the organization of joint reconnaissance and the transmission of intelligence data from naval reconnaissance means to the front headquarters, the headquarters of the rocket troops and artillery, and the headquarters of rocket large units and units assigned to mount strikes; to establish signals for mounting and terminating strikes, and to transmit these signals to the coordinating levels and to the direct executors.

In organizing coordination, special attention must also be given to establishing reliable and high-speed communications between naval headquarters and the front headquarters in order to provide for the fastest possible transmission of reconnaissance data and to order the launch of missiles. For this purpose it is advantageous to have an operations group from naval headquarters (with its communications means) attached to the headquarters of the coordinating front. An operations group from the front headquarters and the headquarters of the rocket troops and artillery may also be dispatched to naval headquarters. Such a group, having communications means and data for conducting discussions, is in a position, for

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example, to give immediate orders directly to rocket units to prepare for strikes and to report this simultaneously to the front headquarters. In this case, the command to the rocket troops to actually mount the strikes must, unquestionably, be given by the front troop commander or, at his orders, by the chief of the rocket troops and artillery in coordination with the naval command.

At some training exercises, representatives from rocket units were detailed to reconnaissance ships and shore reconnaissance posts, but we consider this inadvisable. Direct communications can be set up with ships and naval aerial reconnaissance aircraft in order to speed up the receipt of intelligence data.

The preparation and mounting of strikes by rocket troops against naval targets must obviously be carried out through the joint efforts of the commands and staffs of the front and the navy. Their main responsibility is to organize reconnaissance of naval targets, to determine the objectives and timing of the strikes, to notify our own ships, and to monitor the results of the strikes.

In individual cases, the decision to mount nuclear strikes may be made by the front troop commander independently if he has precise intelligence data and information on the position of our submarines and surface ships. However, the naval command must be informed in advance as to the area of the planned strikes, their yield, and the time at which they are to be mounted.

In using rocket troops for combat with naval targets, the fundamental questions are selecting the strike objectives, selecting the times for the strikes, and determining the order in which nuclear strikes are to be mounted. In our opinion, rocket troops using nuclear weapons of enormous destructive power must, as a rule, be assigned large objectives such as submarines and ships at their bases; naval bases and ports for the loading and unloading of troops and equipment; carrier strike large units; and troops and ships providing fire support for amphibious landings.

There are no particular difficulties in striking submarines and ships at their bases or naval bases and ports for loading and unloading troops and combat equipment. Mounting nuclear strikes against them will be accomplished with the same methods as are used by rocket troops in striking objectives during ground forces operations.

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A basic requirement in nuclear strikes against the naval objectives indicated above is that they take place at the moment when the largest possible number of ships, troops, and military equipment are in a given area. If we consider that in the view of the American command up to five days are required for one division, using several ports, to load its troops, combat equipment, and materiel, then it will obviously be advisable to strike these ports on the third or fourth day after the troop loading begins. Before the strikes are mounted, it is absolutely necessary to conduct final reconnaissance of targets.

The nuclear strikes may be either air or ground surface bursts (or on the surface of the water, which is advantageous when the main strike objectives are enemy ships).

The most advisable method for front rocket troops to use in attacking carrier strike large units is to strike them directly in their combat disposition while they are in transit (a typical combat disposition of a carrier strike large unit is shown in Sketch 1).

The first priority strike objectives must be aircraft carriers and heavy cruisers armed with guided missiles. It is desirable to strike carriers when their assault aircraft are on board.

Depending on how far away the carrier strike large units are located, rocket large units armed with TR-1 and R-300 missiles may be used to mount nuclear strikes against them. Because of the strong air defenses of combat dispositions of carrier strike large units, it is not very effective to use units of cruise missiles. If it becomes necessary to do this, however, a simultaneous group launch of three or four cruise missiles will, as a rule, have to be made within a limited zone in order to increase the reliability of the strike.

Rocket troops can strike an amphibious landing force as soon as it comes into the range of their rockets and can continue the attack after they have landed. It is advisable to give priority to the forward landing detachments which comprise the assault echelon of a large unit, and to the ships transporting nuclear attack means, tanks, and artillery, which usually follow as part of the detachments of the main landing forces.

Very favorable conditions are created for mounting nuclear strikes against an amphibious landing force when it reaches the landing area. Sketch 2 shows the fundamental plan for the structuring of forces in landing an expeditionary division of US Marines.

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The strike objectives of rocket troops during the preparation and landing of an amphibious landing force will be the following:

- helicopter carriers, on each of which there may be up to one reinforced battalion of marines with combat equipment and materiel;
- landing ships and transports, especially while they are standing in place for the transfer of assault subunits onto landing craft;
- groups of ships providing fire support for the landing, usually including cruisers, frigates, and destroyers;
- waves of landing craft transporting the landing force from its formation area to the departure line.

It is less effective to mount nuclear strikes while the waves of landing craft are in transit from the departure line to the shore, since in most cases they proceed to the landing area along a wide front and at maximum speed. It is advantageous to attack them during this period with air strikes and with artillery and tank fire, preferably direct fire.

Since the forming-up of a landing force takes place at a distance of up to 35 to 55 kilometers from the landing area and requires a fairly long period of time (up to 4 to 6 hours), nuclear strikes can be prepared in good time and mounted with virtually all types of rockets available to the ground forces. However, considering that the rocket troops will have to carry out other no less important tasks at this time, it is advisable to use units of tactical rockets in the main strike against the landing force during the preparation and execution of the landing, the strikes to be mounted by decisions of the army commander and division commanders. The strikes can be prepared on the basis of intelligence data received from both naval reconnaissance means and their own.

In conclusion, I would like to dwell on some questions which are directly connected with the preparation of nuclear strikes mounted by rocket troops against naval targets.

The preparation of a nuclear strike against any objective, including naval targets, involves a number of measures to be taken by the command, staffs, and rocket large units, units, and subunits. Among the most important of these measures are: reconnaissance of the enemy; analysis of the reconnaissance data obtained, and the selection of strike targets; decision on using nuclear strikes against the objectives; allocation of

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tasks to rocket large units (units) for preparing strikes; transmittal of tasks to rocket subunits and, finally, preparation of the strike by the subunits.

The experience of training exercises shows that a delay in carrying out any of these measures will inevitably lead to an increase in the total preparation time for a nuclear strike and, consequently, to a reduction in its effectiveness. In striking naval targets, the time factor acquires even more decisive importance, since the strikes cannot be prepared directly according to where the target is but must be prepared according to the projected position of the target. Even the most insignificant errors in determining the projected position, or a delay in mounting the strikes, can lead to failure in carrying out the combat task.

Therefore, high reliability and accuracy of intelligence data constitute one of the most important conditions for the effective use of rocket troops against naval targets. Reconnaissance must provide exact target coordinates and data on their speed and course. Changes in target speed or course must be reported to the rocket troops without delay so that the strike preparation data can be corrected in time.

Another no less important condition is the speed with which strikes can be prepared and mounted against detected targets. According to training exercises, it may take up to one hour to prepare a nuclear strike from the moment a naval target has been discovered by naval reconnaissance, with about 60 percent of this time spent on the receipt and analysis of intelligence data, the selection of strike targets, and the transmittal of tasks to rocket subunits; and 40 percent on the preparation of the strike by the subunits. It goes without saying that we cannot be satisfied with this time, the more so since naval targets are highly mobile.

Is there any real possibility of shortening this preparation time for nuclear strikes? In our opinion there is. In particular, there is no doubt of the necessity to continue to shorten the technical preparation time for rocket launchings as much as possible and, consequently, the launch preparation time of rocket subunits, to improve the rockets, and to automate the processes of technical preparation and aiming. But even all of this will not fully resolve the problem of mounting timely strikes on naval targets.

Priority should be given to shortening the time needed for making the decision to prepare nuclear strikes and for transmitting tasks to the direct executors. This will become entirely possible when the means for

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automating control processes are introduced into the rocket troops, ~~although some capabilities~~ are available to us even now if a number of the measures for preparing strikes are carried out beforehand.

If conditions are favorable for reconnaissance of naval targets, starting while they are still a long distance away, it will be possible in a number of cases to decide on a strike even before the targets have entered the zone where they can be reached by rockets. During this period rocket units can be assigned tasks to prepare for strikes, and strikes can even be prepared against the projected positions of the targets. Under these conditions, all that is required to mount the strike is an updated fix of the target's position, speed, and course, which will unquestionably bring a significant reduction in the total time needed to mount the strike. The amount of work to be done by rocket large units and units will also be reduced, it will not be necessary to reprocess the input data for rocket launches, and it will be possible to transfer strikes depending on the latest intelligence data on the position, speed, and course of targets.

In preparing and mounting nuclear strikes against naval targets within short time limits, it is important that the work of the front headquarters and the headquarters of the rocket troops and artillery be coordinated with the naval headquarters and that there be continuous high-speed communication among them.

These are the main questions and recommendations which this article has intended to set forth concerning the use of ground forces rocket troops to strike naval targets. Naturally it is impossible in one article to examine all of the questions and provide exhaustive recommendations. Its main purpose is to draw the attention of generals and officers to the study and development of effective methods of using all means, particularly ground forces rocket troops, to strike naval targets.

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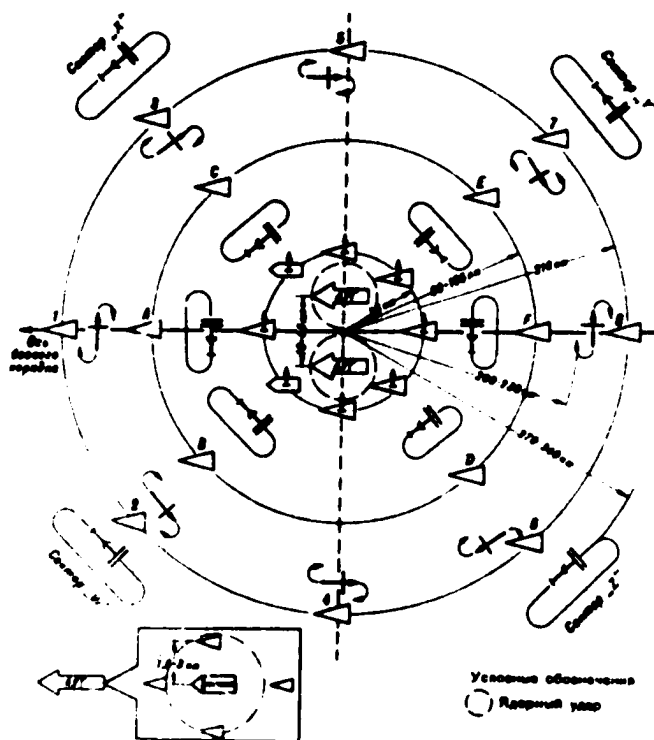
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Sketch 1. Typical combat disposition of a carrier strike large unit



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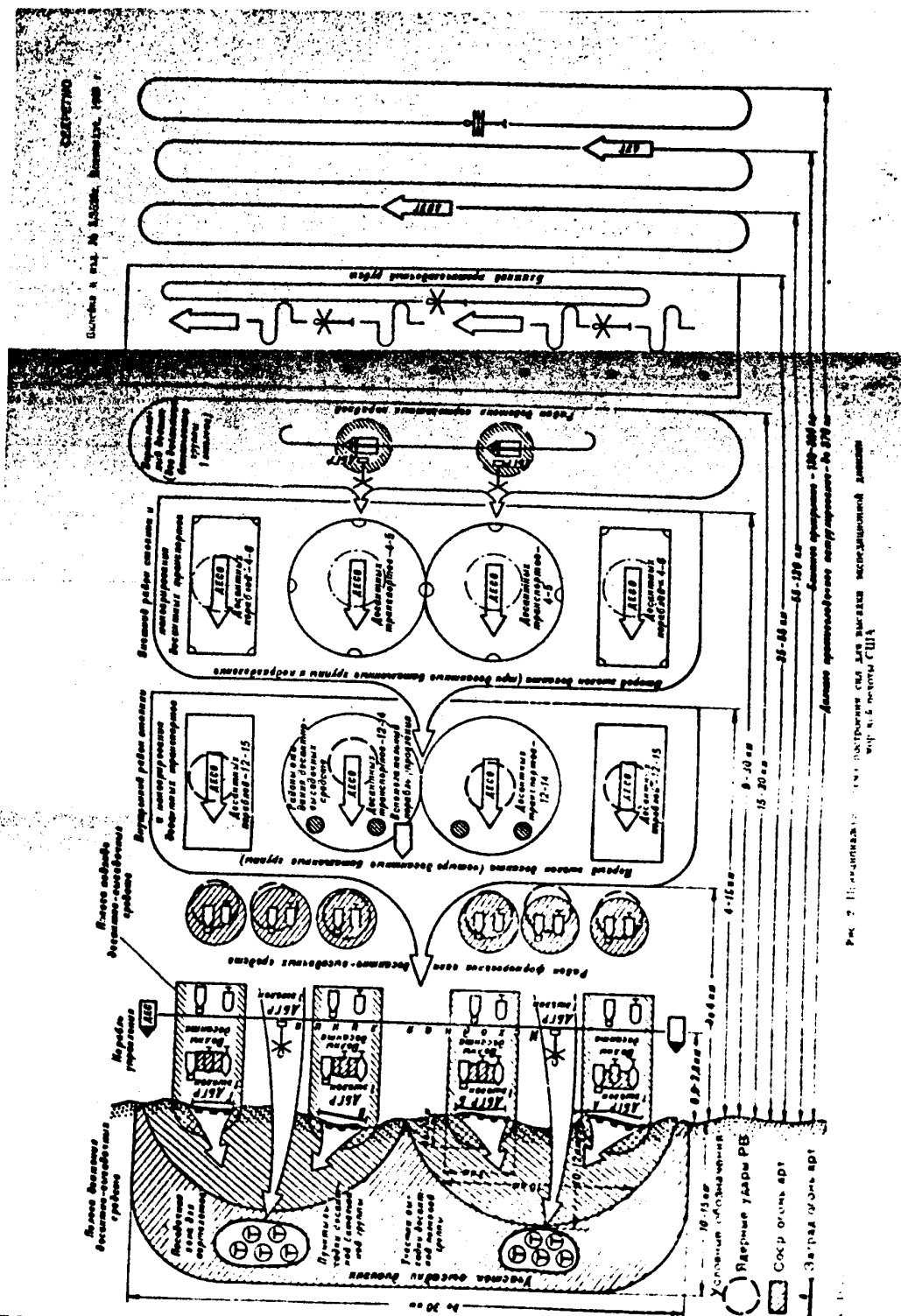
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Sketch 2. Fundamental plan for structuring of forces in landing expeditionary division of US marines

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Sketch 2. Key

- Uslovnyye oboznacheniya - key
- Yadernyye udary RV - Nuclear strikes by rocket troops
 - Sosr. ogon art - Concentrated artillery fire
 - Zagrad. ogon art - Barrier artillery fire
 - Polosa dvizheniya desantno - vysadochnykh sredstv - Zone of activity of landing craft
 - Posadochnaya zona dlya vertoletov - Helicopter landing zone
 - Punkty vysadki; desantnoy batalonnoy gruppy - Landing points of a battalion assault group
 - Uchastki vysadki desantnoy polkovoy gruppy - Landing sectors of a regimental assault group
 - Uchastok vysadki divizii - Landing sector of a division do 30 km - Up to 30 km
 - Korabl upravleniya - Control ship
 - DES - Landing craft
 - DBGR A,B,V,G - Battalion landing group A, B, C, D
 - 1 eshelon - First echelon
 - Volny desanta - Assault wave
 - Iskhodnaya liniya - Departure line
 - Polosa podkhoda desantno - vysadochnykh sredstv - Approach zone of assault landing craft
 - Rayon formirovaniya voln desantno - vysadochnykh sredstv - Forming-up area for landing craft
 - Pervyy eshelon desanta (chetyre desantnyye batalonnyye gruppy) - First echelon of landing (four battalion landing groups)
 - Vnutrenniy rayon stoyanki i manevrirovaniya desantnykh transportov - Inner halt and maneuvering area of landing transports
 - DESO - Landing detachment
 - Desantnykh Korably - 12 - 15 - Landing ships 12-15
 - Rayony ozhidaniya desantno - vysadochnykh sredstv - Waiting areas of landing craft
 - Desantnykh transportov - 12 - 14 - Landing transports 12-14
 - Vspomogatelnyy korabl upravleniya - Auxiliary control ship
 - Desantnykh transportov 12 - 14 - Landing transports 12-14
 - Vtoroy eshelon desanta (tri desantnyye batalonnyye gruppy i podrazdeleniye - Second echelon of landing (three battalion landing groups and subunits)
 - Vneshniy rayon stoyanki i manevrirovaniya desantnykh transportov - Outer halt and maneuvering area of landing transports

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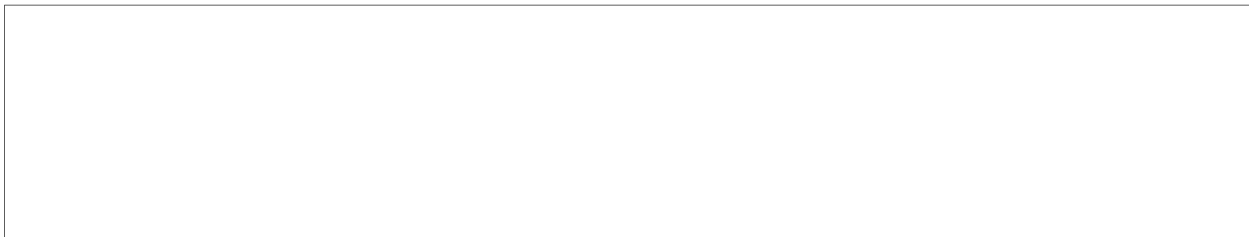


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- Vertoletnyy desant (dve desantnykh batalonnyye gruppy 1 eshelona) - Helicopter landing (two battalion landing groups of the first echelon)
- Rayon deystviya vertoletnykh korabley - Area of activity of helicopter ships
- Blizhniy protivolodochnyy rubezh - Inner antisubmarine line
- AUG - Carrier strike group
- Blizhneye prikrytiye 130 - 300 km - Inner cover 130 - 300 km
- Dalneye protivolodochnoye patrulirovaniye - do 370 km - Long-range antisubmarine patrolling - up to 370 km

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